

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions of claims in this application.

Please cancel claims 10-15, without prejudice or disclaimer, as follows:

1. (Canceled).
2. (Original) An etching method for plasma-etching an SiO_2 film layer covering an SiN_x film layer formed at a workpiece placed inside an air-tight processing chamber by raising to plasma a processing gas induced into said processing chamber, comprising
 - a first step in which said SiO_2 film layer is etched by using a mixed gas containing at least C_4F_8 and CO as said processing gas; and
 - a second step in which a switch is made to a mixed gas containing at least C_4F_8 and CH_2F_2 to be used as said processing gas to etch said SiO_2 film layer immediately before said SiN_x film layer becomes exposed.
3. (Original) An etching method for plasma-etching an SiO_2 film layer covering an SiN_x film layer formed at a workpiece placed inside an air-tight processing chamber by raising to plasma a processing gas induced into said processing chamber, comprising
 - a first step in which said SiO_2 film layer is etched by using a mixed gas containing at least C_4F_8 and CO as said processing gas; and
 - a second step in which a switch is made to a mixed gas containing at least C_4F_8 and CH_2F_2 to be used as said processing gas to etch said SiO_2 film layer immediately after said SiN_x film layer becomes exposed.

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4. (Previously Presented) An etching method according to claim 2 or 3, wherein the flow rate ratio ($\text{CH}_2\text{F}_2 / \text{C}_4\text{F}_8$) of C_4F_8 and CH_2F_2 in said mixed gas containing at least C_4F_8 and CH_2F_2 is set essentially within a range of 0.4 ~ 1.0.
5. (Previously Presented) An etching method according to claim 2 or 3, wherein the partial pressure corresponding to C_4F_8 relative to the entire pressure of said mixed gas containing at least C_4F_8 and CH_2F_2 is set essentially within a range of 0.4 (mTorr) ~ 0.8 (mTorr).
6. (Previously Presented) An etching method according to claim 2 or 3, wherein the density of plasma excited inside said processing chamber is set essentially within a range of 1.5×10^{10} (number of ions / cm^3) ~ 1.2×10^{11} (number of ions / cm^3).
7. (Previously Presented) An etching method according to claim 2 or 3, wherein:
said workpiece is placed on a mounting surface of a susceptor provided
inside said processing chamber; and
the temperature of said susceptor is set essentially within a range of 20 °C
~ the heat resistance temperature of a photoresist layer constituting a
mask pattern for said SiO_2 film layer.
8. (Previously Presented) An etching method according to claim 2 or 3, wherein
said mixed gas containing at least C_4F_8 and CH_2F_2 further contains an inert gas.

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9. (Original) An etching method according to claim 2 or 3, wherein said mixed gas containing at least C_4F_8 and CO further contains an inert gas.

10-15. (Canceled).

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